

Amendments to the Claims:

Please revise the claims as follows:

Claims 1 – 42 (canceled)

43. (currently amended) A slurry composition for a mold comprising
about 45% to about 80% by weight alumina;
about 10% to about 30% by weight silicon carbide;
about 10% to about 50% by weight colloidal silica binder;
about 0.01% to about 1% by weight polysaccharide welan gum;
and a setting agent.

44. (previously presented) The composition of claim 43, wherein the
silicon carbide has an average particle diameter of about 30 micrometers
to about 3.5 millimeters.

45. (previously presented) The composition of claim 43, wherein the
silicon carbide is present at about 12% to about 25% by weight.

46. (previously presented) The composition of claim 43, wherein the
alumina component is present at about 50% to about 65% by weight.

47. (previously presented) The composition of claim 43, wherein the
alumina component comprises a material selected from the group
consisting of brown fused alumina, white fused alumina, tabular alumina,
calcined alumina, and mixtures thereof.

48. (previously presented) The composition of claim 43, wherein the
alumina component comprises particles of screen size 6x14 at about 0%
to about 10% by weight of the composition, particles of screen size 14x70

at about 40% to about 60% by weight of the composition, and particles of screen size -70 at about 2% to about 10% by weight of the composition.

49. (previously presented) The composition of claim 43, further comprising about 2% to about 6% by weight free carbon.

50. (previously presented) The composition of claim 49, wherein the free carbon is present in the form of pitch.

51. (previously presented) The composition of claim 43, further comprising 2% to about 5% by weight fumed silica.

52. (previously presented) The composition of claim 43, wherein the setting agent is present at about 0.05% to about 2% by weight.

53. (previously presented) The composition of claim 52, wherein the setting agent is magnesia.

54. (previously presented) The composition of claim 43, further comprising 0.05% to about 0.5% by weight polypropylene fiber.

55. (currently amended) A casting method, the method comprising:
providing a meltable patterned substrate;
coating the substrate with a slurry composition;
allowing the slurry composition to set and form a mold; and
removing the substrate from the mold;
wherein the slurry composition comprises
about 45% to about 80% by weight alumina;
about 10% to about 30% by weight silicon carbide;
about 10% to about 50% by weight colloidal silica; and

about 0.01% to about 1% by weight ~~polysaccharide~~ welan gum.

56. (previously presented) The method of claim 55, wherein the substrate is coated with the slurry composition by dipping the substrate into the slurry composition.

57. (previously presented) The method of claim 55, wherein the substrate is coated with the slurry composition by spraying the slurry composition onto the substrate.

58. (previously presented) The method of claim 55, wherein the substrate is coated with the slurry composition by brushing the slurry composition onto the substrate.

59. (previously presented) The method of claim 55, wherein the silicon carbide is present at about 15% to about 25% by weight of the slurry composition.

60. (previously presented) The method of claim 55, wherein the alumina component is present at about 50% to about 65% by weight of the slurry composition.

61. (canceled)

62. (previously presented) The method of claim 55, wherein the slurry composition further comprises about 2% to about 6% by weight free carbon.

63. (canceled)

64. (previously presented) The method of claim 55, wherein the slurry composition further comprises fumed silica at about 1% to about 5% by weight of the slurry composition.
65. (canceled)
66. (previously presented) The method of claim 55, wherein the slurry composition further comprises about 0.05% to about 2% by weight setting agent.
67. (canceled)
68. (previously presented) The method of claim 55, wherein the slurry composition further comprises 0.05% to about 0.5% by weight polypropylene fiber.
69. (previously presented) The method of claim 55, wherein the alumina component comprises particles of screen size 6x14 at about 0% to about 10% by weight of the composition, particles of screen size 14x70 at about 40% to about 60% by weight of the composition, and particles of screen size -70 at about 2% to about 10% by weight of the composition.
70. (currently amended) A casting method, the method comprising:
providing a meltable patterned substrate;
coating the substrate with a slurry composition;
allowing the slurry composition to form a mold; and
removing the substrate from the mold;
wherein the slurry composition comprises
about 45% to about 65% by weight alumina, wherein the

alumina component comprises particles of screen size 6x14 at about 0% to about 10% by weight of the composition, particles of screen size 14x70 at about 40% to about 60% by weight of the composition, and particles of screen size -70 at about 2% to about 10% by weight of the composition;

about 10% to about 30% by weight silicon carbide;

about 10% to about 50% by weight colloidal silica; and

about 0.01% to about 1% by weight welan gum.

71. (previously presented) The method of claim 70, further comprising providing a setting agent in the slurry composition, such that a set time can be controlled by varying the amount of setting agent.

72. (currently amended) The method of ~~claim 70~~ claim 71, wherein the set time is between 15 minutes and 10 hours.

73. (currently amended) The method of ~~claim 70~~ claim 71, wherein the setting agent is magnesia.

74. (previously presented) The method of claim 70, wherein the substrate is coated with no more than three coats of the slurry composition.

75. (previously presented) The method of claim 70, wherein the substrate is coated with no more than two coats of the slurry composition.

76. (previously presented) The method of claim 70, wherein the substrate is coated with a single coat of the slurry composition.

77. (canceled)

78. (canceled)
79. (new) A slurry composition for a mold comprising
about 45% to about 80% by weight alumina, wherein the alumina
component comprises particles of screen size 6x14 at about 0% to
about 10% by weight of the composition, particles of screen size
14x70 at about 40% to about 60% by weight of the composition, and
particles of screen size -70 at about 2% to about 10% by weight of
the composition;
about 10% to about 30% by weight silicon carbide;
about 10% to about 50% by weight colloidal silica binder; and
about 0.01% to about 1% by weight polysaccharide gum.
80. (new) The composition of claim 79, wherein the silicon carbide is
present at about 12% to about 25% by weight.
81. (new) The composition of claim 79, wherein the alumina component
is present at about 50% to about 65% by weight.
82. (new) The composition of claim 79, further comprising 0.05% to
about 0.5% by weight polypropylene fiber.
83. (new) A casting method, the method comprising:
providing a meltable patterned substrate;
coating the substrate with a slurry composition;
allowing the slurry composition to form a mold; and
removing the substrate from the mold;
wherein the slurry composition comprises
about 45% to about 65% by weight alumina, wherein the

alumina component comprises particles of screen size 6x14 at about 0% to about 10% by weight of the composition, particles of screen size 14x70 at about 40% to about 60% by weight of the composition, and particles of screen size -70 at about 2% to about 10% by weight of the composition;

about 10% to about 30% by weight silicon carbide;

about 10% to about 50% by weight colloidal silica; and

about 0.01% to about 1% by weight polysaccharide gum.

84. (new) The method of claim 83, further comprising providing a setting agent in the slurry composition, such that a set time can be controlled by varying the amount of setting agent.

85. (new) The method of claim 83, wherein the substrate is coated with a single coat of the slurry composition.

86. (new) The method of claim 83, wherein the slurry composition further comprises 0.05% to about 0.5% by weight polypropylene fiber.